**Lesson 9.6**

**Problem: 9a  Set: Exercises  Page: 234**

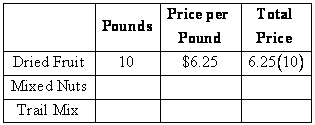
Look in your textbook for this problem statement.

Hint

Copy the table.

Step 1

Copy the table.

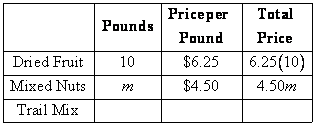


Hint

Fill the second row.

Step 2

Fill the second row. There are *m* pounds of mixed nuts, selling for $4.50 per pound.

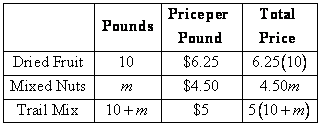


Hint

Add the pounds to get the total amount of trail mix.

Step 3

Add the pounds to get the total amount of trail mix. It will sell at $5 per pound.



**Problem: 9b  Set: Exercises  Page: 234**

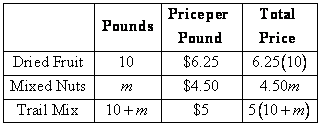
Look in your textbook for this problem statement.

Hint

Write the completed table from part (a).

Step 1

Write the completed table from part (a).



Hint

The total price of dried fruit plus mixed nuts is equal to the total price of trail mix.

Step 2

The total price of dried fruit plus mixed nuts is equal to the total price of trail mix.

6.25(10) + 4.50*m* = 5(10 + *m*)

Hint

Multiply.

Step 3

Multiply.

62.5 + 4.50*m* = 50 + 5*m*

We have our equation.

**Problem: 9c  Set: Exercises  Page: 234**

Look in your textbook for this problem statement.

Hint

Write the equation.

Step 1

Write the equation from part (b).

62.5 + 4.50*m* = 50 + 5*m*

Hint

Collect the variable terms to one side.

Step 2

Collect the variable terms to one side.

62.5 – 50 = 5*m* – 4.50*m*

12.5 = 0.5*m*

Hint

Divide.

Step 3

Divide.

25 = *m*

25 pounds are needed.

**Problem: 11a  Set: Exercises  Page: 234**

Look in your textbook for this problem statement.

Hint

Find his rate. Divide.

Step 1

Find his rate. Divide.

He can wax 1 car in 60 minutes. So, in 1 minute he waxes http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11a_600/image029.gifof the car.

**Problem: 11b  Set: Exercises  Page: 234**

Look in your textbook for this problem statement.

Hint

Use his rate.

Step 1

Use his rate.

In 1 minute he waxes http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11b_600/image029.gifof the car.

So in *x* minutes he waxes http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11b_600/image030.gifof the car.

**Problem: 11c  Set: Exercises  Page: 234**

Look in your textbook for this problem statement.

Hint

Find her rate. Divide.

Step 1

Find her rate. Divide.

She can wax 1 car in 80 minutes. So in 1 minute she waxes http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11c_600/image031.gifof the car.

**Problem: 11d  Set: Exercises  Page: 234**

Look in your textbook for this problem statement.

Hint

Use her rate.

Step 1

Use her rate.

In 1 minute she waxes http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11d_600/image031.gifof the car.

So in *x* minutes she waxes http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11d_600/image032.gifof the car.

**Problem: 11e  Set: Exercises  Page: 234**

Look in your textbook for this problem statement.

Hint

Let them take *x* minutes to wax the entire car together.

Step 1

Let them take *x* minutes to wax the entire car together.

In *x* minutes they will together wax http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11e_600/image033.gifof the car.

The entire car is represented by the fraction 1. So,

http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11e_600/image034.gif

**Problem: 11f  Set: Exercises  Page: 234**

Look in your textbook for this problem statement.

Hint

Write the equation from part (e).

Step 1

Write the equation from part (e).

http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11f_600/image034.gif

Hint

Find the LCD.

Step 2

Find the LCD.

The LCM of the denominators is 240.

Hint

Multiply both sides by the LCD.

Step 3

Multiply both sides by the LCD.

http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11f_600/image035.gif

Hint

Divide common factors.

Step 4

Divide common factors.

http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_11f_600/image036.gif

Hint

Multiply.

Step 5

Multiply.

4*x* + 3*x* = 240

7*x* = 240

Hint

Solve.

Step 6

Solve.

*x* http://hotmath.com/images/specialchars/approx.gif34.3 minutes

It will take them about 34.3 minutes to finish the car

**Problem: 23  Set: Exercises  Page: 235**

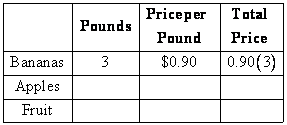
Look in your textbook for this problem statement.

Hint

Make a table.

Step 1

Make a table displaying the information given.

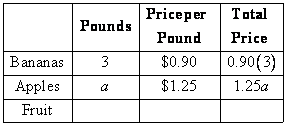


Hint

Fill the second row.

Step 2

Fill the second row. Let her buy *a* pounds of apples at $1.25 per pound.

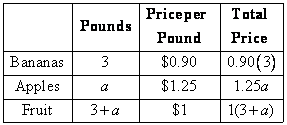


Hint

Add the pounds to get the total amount of fruit

Step 3

Add the pounds to get the total amount of fruit. It will sell at $1 per pound.



Hint

The total price of bananas and apples is equal to the total price of fruit.

Step 4

The total price of bananas and apples is equal to the total price of fruit.

0.90(3) + 1.25*a* = 1(3 + *a*)

Hint

Multiply.

Step 5

Multiply.

2.70 + 1.25*a* = 3 + *a*

Hint

Collect the variable terms to one side.

Step 6

Collect the variable terms to one side.

1.25*a* – *a* = 3 – 2.70

0.25*a* = 0.3

Hint

Divide.

Step 7

Divide each side by 0.25.

*a* = 1.2

1.2 pounds of apples are needed.

**Problem: 35  Set: Exercises  Page: 235**

Look in your textbook for this problem statement.

Hint

Find the LCD.

Step 1

Find the LCD.

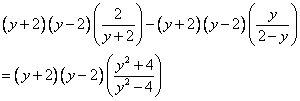
The LCM of the denominators is (*y* + 2)(*y* *–* 2) = *y*2 – 4.

Hint

Multiply both sides by the LCD.

Step 2

Multiply both sides by the LCD.

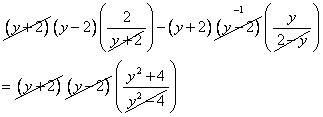


Hint

Divide common factors.

Step 3

Divide common factors.



Simplify.

http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_35_601/image117.gif

Hint

Multiply.

Step 4

Multiply.

2*y* – 4 – *y*2 – 2*y* = *y*2 + 4

2*y*2 = –8

Divide.

*y*2 = –4

Hint

Conclude.

Step 5

The square of a real number cannot be negative. There are no solutions.

**Problem: 37  Set: Exercises  Page: 235**

Look in your textbook for this problem statement.

Hint

Identify values that must be excluded from the solution set.

Step 1

Any value that makes the denominator of a rational expression 0 must be excluded. Therefore 0 and 5 must be excluded from the solution set.

Hint

Simplify the left side.

Step 2

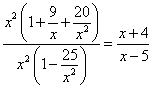
Simplify the left side. The LCD in the numerator and in the denominator is *x*2.

Hint

Multiply the numerator and the denominator by *x*2.

Step 3

Multiply the numerator and the denominator of the left side by *x*2.



Hint

Multiply.

Step 4

Multiply. Use the Distributive Property.



Divide common factors and simplify.



http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_37_601/image122.gif

Hint

Factor.

Step 5

Factor the left side.

http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_37_601/image123.gif

Hint

Divide common factors.

Step 6

Divide common factors.

http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_37_601/image124.gif

Hint

We have an identity.

Step 7

We have an identity:

http://hotmath.com/help/solutions/holliday210/9/6/Exercises/holliday210_9_6_Exercises_37_601/image125.gif

The solution to an identity is all real numbers except the excluded values.

Hint

State the solution.

Step 8

The solution is all real numbers except –5, 0, and 5.

**Problem: 39  Set: Exercises  Page: 235**

Look in your textbook for this problem statement.

Hint

Recall how you solve rational equations and inequalities.

Step 1

You solve rational equations by multiplying both sides of the equation. This may introduce extraneous solutions.

Therefore every solution needs to be checked in the original equation or inequality.